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TC 1700

To:	USPTO Examiner Vivian Chen Art Unit 1773	From:	Claire Wygand for Klaus Schweitzer Phone: (704) 365-4881 Fax: (704) 365-4851
Fax:	(703) 872-9311 (Amendment after Final)	Pages:	4 pages total Transmittal facsimile cover sheet (1 page) Declaration of Prof. Dr. Herbert Peiffer (1 page)
Phone:	(703) 308-0661 - Receptionist	Date:	June 30, 2003
Re:	Application No. 09/910,232; Filed 7/20/01 PEIFFER et al. Our Ref.: 00/121 MFE Response to Office Action dated Feb. 28, 2003	CC:	

Dear Examiner Chen,

Per my telephone message to you this morning (June 30, 2003) attached is the Declaration of Prof. Dr. Herbert Peiffer. I neglected to include the Declaration in the Amendment after Final submitted June 27, 2003. I am hopeful you will excuse my error and accept this Declaration as part of the submission of documents sent June 27th (Friday).

Respectfully submitted,

Claire Wygand
Claire Wygand

Serial-No.: 09/361,603

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Atty. Docket No.: 00/121 MFE

In re patent application ofHerbert Peiffer *et al.*

Serial No. 09/910,232

Filed: July 20, 2001

Group Art Unit: 1773

Examiner: V. Chen

For: TRANSPARENT POLYESTER FILM HAVING HIGH OXYGEN BARRIER
AND PROCESS FOR ITS PRODUCTION

Declaration of Prof. Dr. Herbert Peiffer

Under 37 C.F.R. § 1.132

Honorable Assistant Commissioner for Patents
Washington, D.C. 20231

I, HERBERT PEIFFER declare and state that:

1. I am a resident of the Federal Republic of Germany.
2. I am a citizen of the Federal Republic of Germany.
3. I am an Engineer having received a "Diplom-Engineer" degree in engineering (equivalent to MS in engineering) from Aachen University and Dr. ing. degrees from the same University in Aachen, Germany, in 1976 and 1981 respectively.
4. I have been employed by Mitsubishi Polyester Film GmbH in Wiesbaden, Germany, and its legal predecessors Hoechst AG and Hoechst Diafoil GmbH from 1981 until 1999. Since 1999, I am employed at University of applied sciences at Hof, Germany, as a Professor giving lectures in Technology of Plastics. At the same time, under a consultant agreement, I am still working for Mitsubishi Polyester Film GmbH in the area of polyester film design.
5. I consider myself qualified by my knowledge of polymer processing and by my

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years of experience in polymer processing.

6. I am a co-inventor of the above-captioned United States Patent Application and therefore have personal knowledge of its subject matter.
7. I have read and understand the Official Action mailed on February 28, 2003 ("the Office Action").
8. I understand that claims 1, and 3-15 stand rejected as being unpatentable under the judicially created doctrine of obvious-type double patenting over claims 1-20 of U.S. Pat. No. 6,391,410 (Peiffer et al.) or claims 1-22 of U.S. Pat. No. 6,149,995 (Peiffer et al.).
9. I understand that claims 1, and 3-15 stand rejected as being unpatentable under the judicially created doctrine of obvious-type double patenting over claims 1-17 of U.S. Pat. No. 6,054,212 (Peiffer et al.).
10. I understand that claims 1, and 3-15 stand rejected as being unpatentable under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 6,054,212 (Peiffer et al.), European Patent Applications 0878928 A2, 0878297 A2, 0945256 A2, 0945259, A2 0945261 A2, 0945262 A2, or 0945263 A2.
11. I understand that claims 1, and 3-15 stand rejected as being unpatentable under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 6,149,995 (Peiffer et al.).
12. The essential differences between the present invention and all the prior art cited is that:
 - a. It is known that PEN has better barrier properties than PET. Thus, in order to achieve improved barrier properties in mono-layered PET based films, previous inventors simply added PEN to the PET. In mono-layered films, however, a large amount of PEN, which is more expensive than PET, was necessary to achieve such increase in barrier property. The present inventors recognized that the same increase in barrier property as in a mono-layered film could be achieved with a multi-layered film in which the PEN was only added to the (thin) outer layer and not to the (thicker) PET base layer, thus using considerably less PEN than in the mono-layered film, making such a film more economical than other barrier films. As the PEN concentration increases, the barrier property of the film increases.
 - b. However, as the concentration of PEN in the outer layer increases, the thin outer layer of the current invention tends to delaminate from

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the co-extruded PET base layer. This problem was first encountered by the present inventors while working on the present invention. There was no delamination problem with film in the prior art, since either the films were mono-layered films or – if they were multi-layered films – the PET concentration in the outer layer was high enough to cause no delamination problems. Delamination only becomes a problem with the multi-layered film of the present invention when the outer layer approaches 100% PEN. None of the prior art references set forth in the rejections stated in paragraphs 7–10 herein recognizes the delamination problem. In particular, the prior art references such as US Patent 6,381,410 and 6,149,995 to Peiffer et al. discuss the outer layer comprising up to 60% by weight ethylene terephthalate units. When such a high PET amount exists in the outer layer, delamination is not exhibited between the outer and the base layer.

- b. Therefore the Examiner's conclusion, that a person skilled in the art at the time the invention was made would seek to increase or maximize the inner layer adhesion in order to prevent delamination, is in error. The prior art patents exhibited no delamination problems. The adhesion between the PEN/PET outer layer with the PET base layer was more than adequate. Thus there was no need as suggested by the Examiner to increase or maximize the inner layer adhesion.
- c. In order to avoid delamination, the current invention recognizes that the outer layer must contain at least 3 and up to 9% PET (with the remaining portion of the outer layer containing 91-97% PEN). The present inventors have recognized that outer barrier layers of laminate films of this composition give the optimal barrier properties, and exhibit no delamination. This was not known, taught, or suggested in any of the references set forth by the Examiner in this or any other rejection.

13. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

26 - July - 2003
Date

Herbert Peiffer
Prof. Dr. Herbert Peiffer